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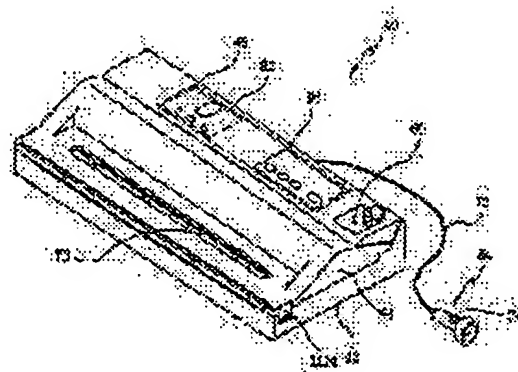
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## (54) VACUUM AND ADHERING TYPE PACKAGING MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a vacuum and adhering type packaging machine giving the maximum convenience in use to a user, an improvement in economic characteristic of the packaging machine, a maximum reliability and satisfaction of the user.

SOLUTION: There is provided a vacuum and adhering type packaging machine that the same is constituted to have many buttons for easily changing an inner side of a packaging bag storing beverage into a vacuum state and attaining a convenience in use; a micro-computer for use in controlling an operation of equipment in response to signals of the buttons; a sucking unit and a confirmation window for use in easily sucking and confirming moisture of the beverage discharged at a vacuum sucking process; a display segment comprised of a segment and a light emitting diode so as to enable a user to directly confirm the vacuum sucking process; a limit switch for use in turning off the operation to prevent a dangerous state of the use from being generated when an upper case is lifted up during the vacuum sucking operation and adhering operation; and a container capable of being removed from a case to wash or clean the container contaminated with liquid content discharged from the beverage.



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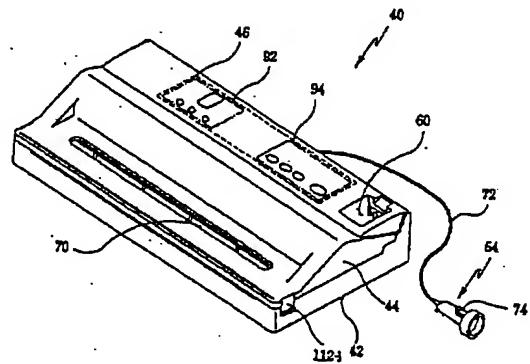
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(54) 【発明の名称】 真空及び接着用包装機

(57) 【要約】

【課題】 使用者に最大の利便性を提供し、包装機の経済性を向上させるとともに使用者の信頼度及び満足度を最大にする真空及び接着用包装機を提供すること。

【解決手段】 飲食物を収容する包装袋の内部を容易に真空状態にし、便利に使用するため、多数のボタンを設け、該ボタンの信号に応じて機器の作動を制御するマイコンを設け、しかも真空過程で排出する飲食物の水分を容易に吸収し確認するための吸入器と確認窓とを設け、さらに真空過程を使用者が直接確認できるようにセグメントと発光ダイオードからなる表示部を設け、真空及び接着時に上部ケースが持ち上げられた場合、使用者の危険を未然に防止するため作動を遮断するリミットスイッチを設け、飲食物から排出した汁液により汚れたコンテナを容易に洗浄するため、コンテナをケースから離脱できるように構成されていることを特徴とする真空及び接着用包装機。



## 【特許請求の範囲】

【請求項1】 食品又は調理された飲食物を包装袋で包装して保管するため、前記包装袋を真空状態で接着するために上部ケース（44）と下部ケース（42）とからなる真空及び接着用包装機（40）において、該真空及び接着用包装機（40）の上部ケース（44）は、前記下部ケース（42）に開閉自在に組み立てられ、且つ包装袋（52）の圧着状態とコンテナ（68）内の飲食物の汁液の存否を確認できる透明確認窓（70）が設けられ、しかも前記下部ケース（42）には、操作パネル（46）による電気的信号を判断制御するマイコン（48）と、該マイコン（48）により制御されて真空を形成するため内部に設けられた真空ポンプ（50）と、前記マイコン（48）の制御により加熱されて包装袋（52）を接着させるヒーター（54）と、前記マイコン（48）の制御のとき、真空圧力と接着時間とを知らせるための表示窓（56）と、ロール状の包装袋（52）を収納する装填溝（58）と、真空転換溝（60）に脱着自在で且つ前記真空ポンプ（50）に連結され包装袋（52）又は真空容器（62）を選択的に真空状態にする真空容器吸入器（64）と、前記真空転換溝（60）に連結され、且つ空気が排出される真空チャンパー（66）を有するコンテナ（68）とからなることを特徴とする真空及び接着用包装機。

【請求項2】 前記上部ケース（44）は、横方向両側にドアロック部（112-1）が設けられ、該ドアロック部（112-1）間には、ヒーター（54）と密着されて包装袋（52）の接着を容易にするためのゴム材からなるヒーター加圧部（114）が設けられ、該ヒーター加圧部（114）の後方側には、前記下部ケース（42）に設けられた下部真空維持パッド（84）と対向する位置に長方形の上部真空維持パッド（116）が設けられ、該上部真空維持パッド（116）の中心には真空チャンパー（66）を容易に確認し得るようにする透明確認窓（70）が設けられてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項3】 前記下部ケース（42）に設けられたヒーター（54）の下部には、熱により発生する前記ケースの変形を防止する放熱体（54-1）が設けられてなることを特徴とする請求項1又は2記載の真空及び接着用包装機。

【請求項4】 前記コンテナ（68）は、前記下部ケース（42）に形成されたコンテナ組立溝（76）の分離突起（78）により接合され、且つ前記コンテナ（68）の一侧には、排気ポート（80）と汁溢れ防止段（82）とを有する長方形の真空チャンパー（66）が設けられ、該真空チャンパー（66）の縁部にはゴム材からなる下部真空維持パッド（84）が付着されてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項5】 前記装填溝（58）は、前記コンテナ（68）の後方側に長手方向に形成され、ロール状の包装袋（52）を収納するため、一侧に略U字状溝（86）が形成され、他側には、回転による巻取及び巻解がなされるよう、係止溝（90a）を有する巻取ホイール（90）が設けられることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項6】 前記装填溝（58）には、一侧に、窒素ガスボンベ（120）の注入口（122）と結合する連結ポート（124）が設けられ、他側に、前後進できるようにガスボンベ装填部（126）が設けられ、前記連結ポート（124）に連結されるガス注入管（128）には、窒素ガスボンベ（120）のガスを流したり止めたりするための通常のバルブ（130）が備えられ、前記ガス注入管（128）の一端には、包装袋（52）内に注入できるようにガス注入ポート（132）がコンテナ（68）に突設されてなることを特徴とする請求項1又は5記載の真空及び接着用包装機。

【請求項7】 前記操作パネル（46）の表示部（92）には、マイコン（48）により制御され、真空圧力及び接着時間を表示する表示窓（56）と、真空時又は包装袋の接着時の選択を示すヒーターランプ（96）と、包装袋（52）を真空状態に形成することを示すフィルム用真空表示ランプ（98）と、真空容器（62）を真空状態に形成することを示す真空容器用表示ランプ（100）とが設けられ、

前記操作パネル（46）のスイッチ部（94）には、ヒーターの作動、包装袋の真空形成又は真空容器の真空形成を選択するメニュースイッチ（102）と、真空圧力及び接着時間を設定する選択スイッチ（104）と、手動接着のみを選択する接着スイッチ（106）と、開始及び停止を選択するスイッチ（108）とが設けられてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項8】 前記真空転換溝（60）は、真空容器吸入器（64）が着脱自在に構成され、前記真空チャンパー（66）の排気ポート（80）に連結管（110）を介して連結される吸気孔（112）が形成されてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項9】 前記真空容器吸入器（64）は、一侧に連結された透明ホース（72）を介して真空ポンプ（50）に連結され、且つ該真空容器吸入器（64）には真空容器（62）の自動真空形成と圧力解除のための圧力解除スイッチ（74）が設けられてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項10】 前記真空容器吸入器（64）により真空容器（62）を真空状態にするとき、前記上部ケース（44）が開放していても真空状態となり、前記包装袋（52）の真空形成及び接着を行うとき、前記上部ケース（44）が開いて起こる事故を未然に防止するため、

真空及び接着駆動を停止するように開閉駆動されるヒンジ部にリミットスイッチが設けられてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項11】 前記真空ポンプ(50)は、ヒーター(54)による包装袋(52)の接着が行われるときに作動が停止するようにしてなることを特徴とする請求項1記載の真空及び接着用包装機。

【請求項12】 食品又は調理された飲食物を包装袋で包装して保管するため、前記包装袋を真空状態で接着するために上部ケース(44)と下部ケース(42)とからなる真空及び接着用包装機(40)において、  
10 該真空及び接着用包装機(40)の上部ケース(44)は、前記下部ケース(42)に開閉自在に組み立てられ、且つ包装袋(52)の圧着状態とコンテナ(68)内の飲食物の汁液の存否を確認できる透明確認窓(70)が設けられ、しかも前記下部ケース(42)には、操作パネル(46)による電氣的信号を判断制御するマイコン(48)と、該マイコン(48)により制御されて真空を形成するため内部に設けられた真空ポンプ(50)と、前記マイコン(48)の制御により加熱されて  
20 包装袋(52)を接着させるヒーター(54)と、前記マイコン(48)の制御のとき、真空圧力と接着時間とを知らせるための表示窓(56)と、ロール状の包装袋(52)を収納する装填溝(58)と、真空転換溝(60)に脱着自在で且つ前記真空ポンプ(50)に連結され包装袋(52)を真空状態にする真空容器吸入器(64)と、前記真空転換溝(60)に連結され、且つ空気が排出される真空チャンバー(66)を有するコンテナ(68)とからなることを特徴とする真空及び接着用包装機。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、食品又は調理された飲食物の酸化又は変質を防止するため、包装袋に入れ真空状態で包装するための真空及び接着用包装機に関するもので、より詳しくは、飲食物が入っている包装袋の内部を容易に真空状態にし、且つ便利に使用するため、多数のボタンを設け、該ボタンの信号に応じて機器の作動を制御するマイコンを設け、しかも真空過程で排出する飲食物の水分を容易に吸収し確認するための吸入器と透明確認窓とをそれぞれ設け、さらに前記真空過程を使用者が直接確認できるようにセグメントと発光ダイオードからなる表示部を設け、しかも真空及び接着時に上部ケースが持ち上げられた場合、使用者の危険を未然に防止するため作動を遮断するリミットスイッチを設けてなる他、飲食物から排出する汁液により汚れたコンテナを容易に洗浄できるよう、コンテナをケースから離脱できる構成にすることにより、包装袋の真空及び接着を行うに際し、使用者に最大の利便性を提供し、これにより全体的な包装機の経済性を向上させるとともに使用者の使

用上の信頼度及び満足度を最大にする真空及び接着用包装機に関するものである。

【0002】

【従来の技術】一般には、食品又は調理された飲食物を保管するため、ラップ又はビニル紙で包装して冷蔵庫のような冷凍機器に保管しているのが実情である。しかしながら、前記冷凍機器での保管方式は、所定の期間は保管することができるが、長期的には、前記包装袋の内部にある空気により食品及び飲食物が酸化して腐敗するため、長時間の保管が容易でない問題がある。

【0003】このような問題を解決し、食品又は調理された飲食物の酸化及び変質を防止して長期間保管するため、包装袋の内部に保管すべき飲食物を入れ空気を抜き出した後、接着する真空及び接着用包装機が開発され、使用されている。

【0004】例えば、図1に示すように、従来実施されている真空及び接着用包装機は、上下部ケース20、10の内部に包装袋30の一端が挿入され、ゴムパッキング24、23が上下部に設けられており、該上下部ゴムパッキング24、23によって圧着された包装袋30の内部の空気を吸入するための真空ポンプ25が設けられており、前記下部ゴムパッキング23の前方には、包装袋30の密封のための加熱手段であるヒーター21が設けられているものである。

【0005】しかるに、前記構成により、使用者が包装袋30の内部に貯蔵すべき飲食物を入れ、該包装袋30の入口部を上下部ゴムパッキング24、23間に位置させた後、上下部ゴムパッキング24、23が噛み合うように、前記上部ケース20を閉じる。このような状態で、所定のスイッチを押すと、真空ポンプ25が作動し、該真空ポンプ25の作動により、ゴムパッキング23、24間の空間は真空状態に形成される。このように、包装袋30内部に真空を形成することが完了すると、前記下部ゴムパッキング23の前方に設けられたヒーター21に電源が印加され、前記包装袋30が熱融着されて密封状態となる。尚、前記上部ケース20には、包装袋30を容易に熱融着させるために包装袋30を圧迫するヒーター圧迫用パッキング22が設けられ、且つ前記ヒーター21は使用者がその温度を調節し得るよう  
30 に構成されている。

【0006】

【発明が解決しようとする課題】しかるに、前記従来の真空及び接着用包装機は、飲食物を包装する包装袋の内部に強い真空力が作用するため、飲食物を圧着して破損及び破砕させるなど、飲食物の損傷を引き起こす問題があり、しかも該損傷を防止するため、包装袋内の真空度を低めると、前記包装袋の内部に残存する空気中の酸素により飲食物が酸化し変質してしまい、飲食物の新鮮度を維持することができないという問題点がある。

【0007】さらに飲食物に汁液が多量に含有されてい

る場合、真空形成の際に、真空ポンプに汁液が流入して部品と内部を汚染させて腐食させる問題がある他、前記汁液の多い飲食物を含む包装袋の真空形成の際に、真空チャンパーに汁液が流入されているかが確認できないとともに、前記真空チャンパーに汁液が流入した場合に、真空チャンパーが分離できなくて洗浄が容易でない。

【0008】以上のように、従来実施されている真空及び接着用包装機は、上記種々の問題点があるため、生産性及び効率性に限界があるのみならず、製品の使用信頼度が低下して、使用者が真空及び接着用包装機を使用する際、十分満足できないという問題が常に存在していたものである。

【0009】本発明は、前記のように従来発生する問題点を解決するためになされたもので、飲食物を包装する包装袋の真空形成及び接着において、使用者に最大の利便性を提供し、全体的な包装機の経済性を向上させるとともに、使用者の使用上の信頼度と満足度を最大にする真空及び接着用包装機を提供することを目的とする。

【0010】

【課題を解決するための手段】前記目的を達成するために本発明は、飲食物が入っている包装袋の内部を容易に真空状態にし、且つ便利に使用するため、多数のボタンを設け、該ボタンの信号に応じて機器の作動を制御するマイコンを設け、しかも真空過程で排出する飲食物の水分を容易に吸収し確認するための吸入器と透明確認窓とをそれぞれ設け、さらに真空過程を使用者が直接確認できるようにセグメントと発光ダイオードからなる表示部を設け、また真空及び接着時に上部ケースが持ち上げられ開放された場合、使用者の危険を未然に防止するため作動を遮断するリミットスイッチを設け、しかも飲食物から排出する汁液により汚れたコンテナを容易に洗浄するため、ケースから離脱できるように構成したものである。

【0011】

【発明の実施の形態】以下本発明を好ましい実施例を示す添付図面に基つて具体的に説明する。尚、後述の用語は本発明での機能を考慮して設定したもので、これは製品を生産する生産者の意図又は慣例によって違い得るので、その定義は本明細書の全般にわたって開示された内容をもとにして解釈されるべきである。

【0012】図2ないし図7は本発明の一実施例を示すもので、図2は真空及び接着用包装機を示す外観斜視図、図3は真空及び接着用包装機の上部ケースが開放された状態を示す斜視図、図4は上部ケースを省略した下部ケースの平面図、図5はコンテナが下部ケースから分離できることを示す平面図、図6は他実施例として真空吸入器が真空容器に適用されるものを示す斜視図、図7は真空及び接着用包装機の制御構成を示すブロック構成図であり、図8はガスポンペを装填した他実施例を示

す。

【0013】すなわち、本実施例は、食品又は調理された飲食物を包装袋で包装して保管するため、前記包装袋を真空状態で接着するために上部ケース44と下部ケース42とからなる真空及び接着用包装機40において、該真空及び接着用包装機40の上部ケース44は、前記下部ケース42に開閉自在に組み立てられ、包装袋52の圧着状態とコンテナ68に飲食物の汁液があるかが容易に確認できるようにした透明確認窓70が設けられ、前記下部ケース42には、操作パネル46による電気的信号を判断制御するマイコン48と、該マイコン48により制御されて真空を形成するため内部に設けられた真空ポンプ50と、前記マイコン48の制御により、加熱されて包装袋52を接着させるヒーター54と、前記マイコン48の制御のとき、真空圧力と接着時間とを知らせるための表示窓56と、ロール状の包装袋52を収納する装填溝58と、真空転換溝60に脱着自在で且つ前記真空ポンプ50に連結され包装袋52又は真空容器62を選択的に真空状態にする真空容器吸入器64と、前記真空転換溝60に連結され、且つ空気が排出される真空チャンパー66を有するコンテナ68とからなる。

【0014】次に、前記上部ケース44は、横方向両側にドアロック部112-1が設けられ、該ドアロック部112-1間には、ヒーター54と密着されて包装袋52の接着を容易にするためのゴム材からなるヒーター加圧部114が設けられ、該ヒーター加圧部114の後方側には、前記下部ケース42に設けられた下部真空維持パッド84と対向する位置に長方形の上部真空維持パッド116が設けられ、該上部真空維持パッド116の中心には真空チャンパー66を容易に確認し得るようにする透明確認窓70が設けられている。

【0015】また、前記下部ケース42に設けられたヒーター54の下部には、熱により発生する前記ケースの変形を防止する放熱体54-1が設けられている。

【0016】次に、前記コンテナ68は、前記下部ケース42の前端側に形成されたコンテナ組立溝76の分離突起78により接合され、前記コンテナ68の一側には、排気ポート80と汁溢れ防止段82とを有する長方形の真空チャンパー66が設けられ、該真空チャンパー66の縁部にはゴム材からなる下部真空維持パッド84が付着されている。

【0017】また、前記装填溝58は、前記コンテナ68の後方側に長手方向に形成され、ロール状の包装袋52を収納するため、一側に略U字状溝86が形成され、他側には、回転による巻取及び巻解がなされるよう、係止溝90aを有する巻取ホイール90が設けられている。

【0018】さらに、前記操作パネル46の表示部92には、マイコン48により制御され、真空圧力及び接着時間を表示する表示窓56と、真空時又は包装袋の接着

時の選択を示すヒーターランプ96と、包装袋52を真空状態に形成することを示すフィルム用真空表示ランプ98と、真空容器62を真空状態に形成する時に点灯される真空容器用表示ランプ100とが設けられ、前記操作パネル46のスイッチ部94には、ヒーターの作動、包装袋の真空形成又は真空容器の真空形成を選択するメニュースイッチ102と、真空圧力及び接着時間を設定する選択スイッチ104と、手動接着のみを選択する接着スイッチ106と、開始及び停止を選択するスイッチ108とが設けられてなる。

【0019】前記真空転換溝60は、真空容器吸入器64が着脱できるように構成され、前記真空チャンバー66の排気ポート80に連結管110を介して連結される吸気孔112が形成されている。

【0020】また、前記真空容器吸入器64は、一側に連結された透明ホース72を介して真空ポンプ50に連結され、且つ該真空容器吸入器64には真空容器62の自動真空形成と圧力解除のための圧力解除スイッチ74が設けられている。

【0021】図8は前記装填溝58に前記ロール状包装袋52の代わりに窒素ガスボンベ120を具備させる場合を示す他実施例で、前記装填溝58には、一側に、窒素ガスボンベ120の注入口122と結合する連結ポート124が設けられ、他側に、ソレノイドなどにより前後進できるようにしたガスボンベ装填部126が設けられ、前記連結ポート124に連結されるガス注入管128には、窒素ガスボンベ120のガスを流したり止めたりするための通常のバルブ130が備えられ、前記ガス注入管128の一端には、包装袋52内にガスが注入できるようにガス注入ポート132がコンテナ68に突設されている。

【0022】そして、前記排気ポート80とガス注入ポート132が設けられた空間を取り囲んでいる長円形パッキングはゴムチューブ構造となり、圧縮ガスが注入される場合、膨張しながら気密状態で密着するように構成されている。

【0023】尚、図6の実施例の場合には、真空容器吸入器64により真空容器62を真空状態にするとき、真空容器吸入器64で吸入するため、前記上部ケース44が開放していても真空状態の形成が可能である。また、前記包装袋52の真空形成及び接着を行うとき、前記上部ケース44が開いて起こる事故を未然に防止するため、真空及び接着駆動を停止するように開閉駆動されるヒンジ部にリミットスイッチが設けられている。

【0024】さらに前記真空ポンプ50は、ヒーター54による包装袋52の接着作業が行われるときは作動が停止するようになっている。

【0025】尚、前記実施例のように構成された真空及び接着用包装機は多様に変形できる。さらに、本発明は前記に開示している特別な形態に限定されないものと理

解すべきであり、却って特許請求の範囲により定義される本発明の精神と範囲内の全ての変形物、均等物及び代替物を含むものと理解すべきである。

【0026】次に上記実施例において、前記真空及び接着用包装機40を用いて飲食物などを真空包装する場合、まず包装袋52に食品又は調理された飲食物を入れた後、包装袋52の開口部端縁をコンテナ68の下部真空維持パッド84上に位置させながら、真空チャンバー66上に位置するようにセッティングする。

【0027】次に、上部ケース44を下部ケース42上に閉じた後、操作パネル46の選択スイッチ104を操作して、真空圧力又は接着時間を、表示窓56を見ながら設定した後、メニュースイッチ102を押す。

【0028】このように、真空包装のための準備が完了し、スイッチ108を押すと、包装袋52内の空気が排出されて真空状態となる。

【0029】一方、包装袋52に収納する飲食物に汁液が多く含まれている場合、該飲食物の真空包装の際には、透明確認窓70を介して汁液の溢れを確認することができ、包装袋52の開口部が真空チャンバー66上に正しく位置しているかの位置確認も容易に行うことができるのである。

【0030】さらに前記透明確認窓70を介して汁液の溢れが確認できた際には、真空形成を直ちに停止し、再びセッティングを行った後、真空を形成するか又は接着スイッチ106による接着のみの単独機能を選べるなど便利な使用を可能にする。

【0031】また、前記コンテナ68に流入された汁液の溢れの確認を逃がしたとしても、汁液は排気ポート80を経て、真空転換溝60に位置する真空容器吸入器64に流入すると、空気とともに汁液が透明ホース72に沿って流れるので、汁液の溢れの確認が自然にできるのである。よって、透明ホース72に汁液が付いている場合には、これを確認してコンテナなどの内部を掃除又は洗浄するか、機器の修理を依頼することで、機器の耐久性を維持することができる。

【0032】一方、包装袋52の圧力が一定圧力に至るとマイコン48が圧力センサー118を通して感知し、これにより、マイコン48は真空ポンプ50の作動を停止させて真空包装作業を完了する。

【0033】次に図6の実施例のように、別の真空容器62に収容した食品又は調理された飲食物を真空にしようとする場合には、真空容器吸入器64を真空転換溝60から取り出した後、真空容器62の蓋に設けられた通常の真空容器バルブに結合して真空状態を形成することができる。この際、上部ケース44が開放状態であっても、真空容器吸入器64によって真空容器62内を真空状態にすることができる。尚、前記真空容器吸入器64の取り出しは、真空容器解除スイッチ74を押すことによって容易に行える。

【0034】次に、前記のように、包装袋52内の空気を抜き出して真空状態を形成すると、マイコン48はヒーター54に電源を印加して発熱させ、その結果包装袋52の開口部が熱融着されて密封状態となる。

【0035】一方、図8の実施例の場合には、前記包装袋52の熱シールに先立って、マイコン48はガスポンベ装填部126を押して、窒素ガスポンベ120の窒素ガスを、連結ポート124及びこれに連結されたガス注入管128のガス注入ポート132を通じて、真空状態に形成された包装袋52内に所定量のガスを注入することができる。しかし該窒素ガスポンベは選択的に備えられたものである。

【0036】前記マイコン48は圧力センサー118により感知される真空圧、つまり包装袋52に作用する真空圧を表示窓56にディスプレイさせる。ここで、前記マイコン48による真空及び接着用包装機40の制御方法は本出願人により既に出願された大韓民国特許出願第2000-22618号に開示されている。

【0037】尚、前記圧力センサー118は圧電(piezoelectric)、圧抵抗(piezoresistive)、静電容量(capacitance)、差動トランス(LVDT; Linear Variable Different Transformer)方式で多様に適用することができる。

【0038】上記図8の実施例のように、飲食物が収容された包装袋52を真空処理して内部空気を除去してから窒素ガスを注入することにより、飲食物の変質を防止することはもちろんのこと、ガスの注入により強い真空圧により飲食物が損傷することを防止することもできる。

【0039】

【発明の効果】以上説明したように、本発明は飲食物が収容されている包装袋の内部を容易に真空状態にし、且つ便利に使用するため、多数のボタンを設け、該ボタンの信号に応じて機器の作動を制御するマイコンを設け、しかも真空過程で排出する飲食物の水分を容易に吸収し確認するための吸入器と透明確認窓とをそれぞれ設け、さらに前記真空過程を使用者が直接確認できるようにセグメントと発光ダイオードからなる表示部を設け、しかも真空及び接着時に上部ケースが持ち上げられた場合、使用者の危険を未然に防止するため作動を遮断するリミットスイッチを設けてなる他、飲食物から排出する汁液により汚れたコンテナを容易に洗浄できるよう、コンテナをケースから離脱できる構成にすることにより、包装

袋の真空及び接着を行うに際し、使用者に最大の利便性を提供し、これにより全体的な包装機の経済性を向上させるとともに使用者の使用上の信頼度及び満足感を最大にする効果を奏する。

【図面の簡単な説明】

【図1】従来の真空及び接着用包装機を示す斜視図。

【図2】本発明の一実施例である真空及び接着用包装機の外観を示す斜視図。

【図3】図1の真空及び接着用包装機の上部ケースが開いた状態を示す斜視図。

【図4】図1の真空及び接着用包装機の下部ケースの平面図。

【図5】図4においてコンテナが下部ケースから分離された状態を示す平面図。

【図6】本発明の他の一実施例である真空及び接着用包装機の外観を示す斜視図。

【図7】本発明の一実施例である真空及び接着用包装機の制御構成を示す概略図。

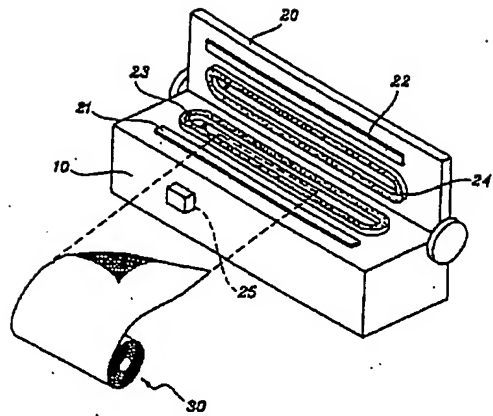
【図8】本発明の他の一実施例である真空及び接着用包装機の制御構成を示す概略図。

【符号の説明】

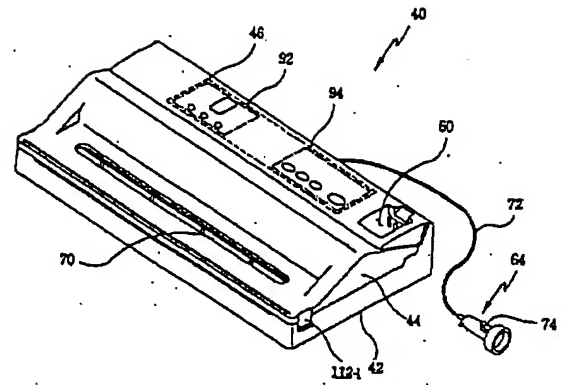
- 40 真空及び接着用包装機
- 42 下部ケース
- 44 上部ケース
- 46 操作パネル
- 48 マイコン
- 50 真空ポンプ
- 52 包装袋
- 54 ヒーター
- 56 表示窓
- 58 装填溝
- 60 真空転換溝
- 62 真空容器
- 64 真空容器吸入器
- 66 真空チャンバー
- 68 コンテナ
- 70 透明確認窓
- 72 透明ホース
- 74 圧力解除スイッチ
- 76 コンテナ組立溝
- 80 排気ポート
- 82 汁液溢れ防止段
- 84 下部真空維持パッド
- 116 上部真空維持パッド



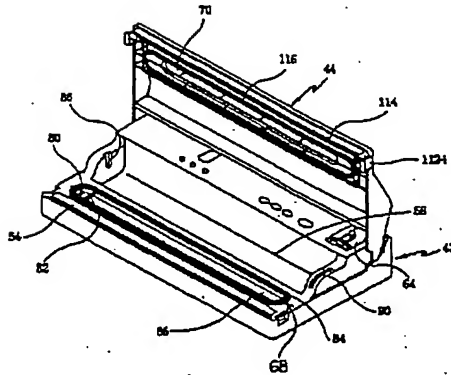
【図1】



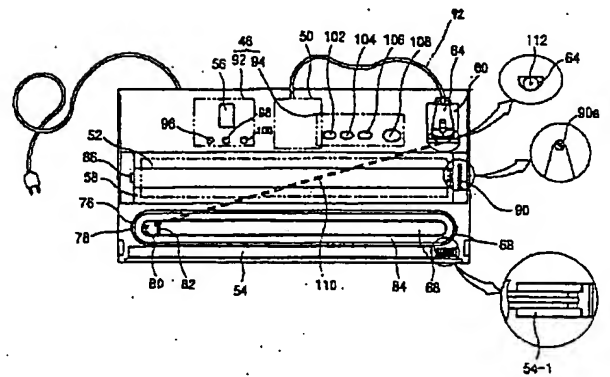
【図2】



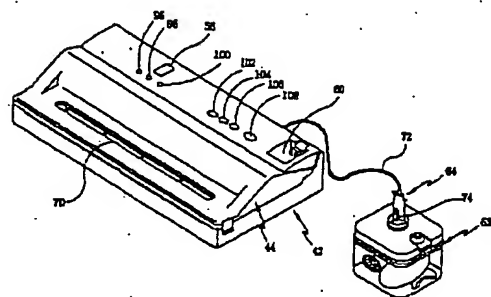
【図3】



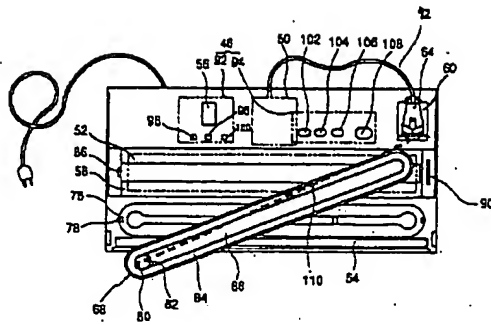
【図4】



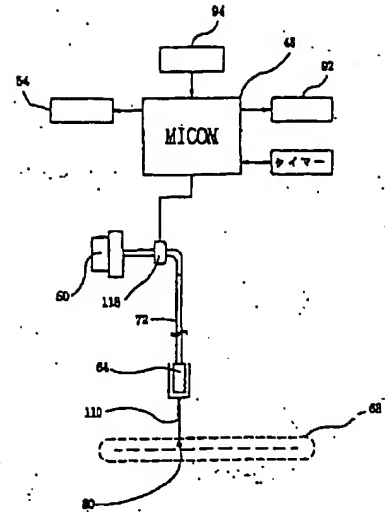
【図6】



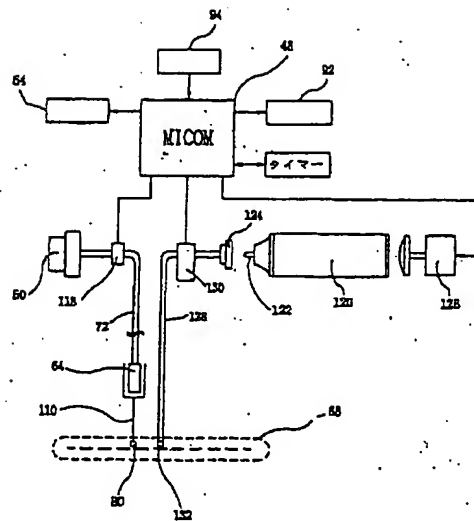
【図5】



【図7】



【図8】



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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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CLAIMS

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## [Claim(s)]

[Claim 1] In the vacuum and the packaging machine for adhesion (40) which consist of upper housing (44) and lower housing (42) in order to pack and keep food or the cooked ingesta with a package bag, and to paste up said package bag by the vacua The upper housing (44) of this vacuum and the packaging machine for adhesion (40) The transparence audit window (70) which is assembled by said lower housing (42) free [ closing motion ], and can check the existence or nonexistence of the sap of the sticking-by-pressure condition of a package bag (52) and the ingesta in a container (68) is prepared. And the microcomputer which carries out decision control of the electric signal by the control panel (46) at said lower housing (42) (48), The vacuum pump formed in the interior in order to be controlled by this microcomputer (48) and to form a vacuum (50), At the time of the heater (54) on which it is heated by control of said microcomputer (48), and a package bag (52) is pasted up, and control of said microcomputer (48) The loading slot which contains the display window (56) for telling vacuum pressure and adhesion time amount, and a roll-like package bag (52) (58), The vacuum housing inhaler which desorption is free into a vacuum conversion slot (60), and is connected with said vacuum pump (50), and makes a vacua alternatively a package bag (52) or a vacuum housing (62) (64), The vacuum and the packaging machine for adhesion which are characterized by consisting of a container (68) which has the vacuum chamber (66) by which connects with said vacuum conversion slot (60), and air is discharged.

[Claim 2] As for said upper housing (44), the door-lock section (112-1) is prepared in longitudinal direction both sides. Between these door-lock sections (112-1) The heater pressurization section (114) which consists of rubber material for being stuck with a heater (54) and making adhesion of a package bag (52) easy is prepared. To the back side of this heater pressurization section (114) A rectangular up vacuum maintenance pad (116) is prepared in the lower vacuum maintenance pad (84) prepared in said lower housing (42), and the location which counters. The vacuum according to claim 1 and the packaging machine for adhesion which are characterized by coming to prepare the transparence audit window (70) which enables it to check a vacuum chamber (66) easily in the core of this up vacuum maintenance pad (116).

[Claim 3] The vacuum according to claim 1 or 2 and the packaging machine for adhesion which are characterized by coming to prepare the radiator (54-1) which prevents deformation of said case generated with heat in the lower part of the heater (54) formed in said lower housing (42).

[Claim 4] Said container (68) is joined by the separation projection (78) of the container assembly slot (76) formed in said lower housing (42). To the 1 side of said container (68) The vacuum according to claim 1 and the packaging machine for adhesion which are characterized by coming to adhere to the lower vacuum maintenance pad (84) which the vacuum chamber (66) of the rectangle which has an exhaust air port (80) and a juice overflow prevention stage (82) is prepared, and becomes the edge of this vacuum chamber (66) from rubber material.

[Claim 5] Said loading slot (58) is the vacuum according to claim 1 and the packaging machine for adhesion which are characterized by to prepare the winding wheel (90) which has a stop slot (90a) so that the letter slot (86) of the abbreviation for U characters may be formed in 1 side and winding and \*\*\*\* by rotation may be made at the side else, in order to be formed in the back side of said container (68) at a longitudinal direction and to contain a roll-like package bag (52).

[Claim 6] The connection port (124) combined with the inlet (122) of a nitrogen chemical cylinder (120) is established in 1 side in said loading slot (58). In insufflation tubing (128) which the chemical cylinder loading section (126) is prepared so that it can \*\* approximately, and is connected with the side else in said connection port (124) It has the

usual bulb (130) for passing or stopping the gas of a nitrogen chemical cylinder (120). At the end of said insufflation tubing (128) The vacuum according to claim 1 or 5 and the packaging machine for adhesion which are characterized by for an insufflation port (132) protruding on a container (68), and becoming so that it can pour in in a package bag (52).

[Claim 7] In the display (92) of said control panel (46) The display window which is controlled by the microcomputer (48) and displays vacuum pressure and adhesion time amount (56), The heater lamp in which the selection at the time of a vacuum or adhesion of a package bag is shown (96), The vacuum display lamp for films in which forming a package bag (52) in a vacua is shown (98), The pilot light (100) for vacuum housings in which forming a vacuum housing (62) in a vacua is shown is formed. In the switch section (94) of said control panel (46) The menu switch which chooses actuation of a heater, vacuum formation of a package bag, or vacuum formation of a vacuum housing (102), The vacuum according to claim 1 and the packaging machine for adhesion which are characterized by coming to prepare the selecting switch (104) which sets up vacuum pressure and adhesion time amount, the adhesion switch (106) which chooses only manual adhesion, and the switch (108) which chooses initiation and a halt.

[Claim 8] Said vacuum conversion slot (60) is the vacuum according to claim 1 and the packaging machine for adhesion which are characterized by coming to form the inhalation-of-air hole (112) with which a vacuum housing inhaler (64) is constituted free [ attachment and detachment ], and is connected with the exhaust air port (80) of said vacuum chamber (66) through an interconnecting tube (110).

[Claim 9] Said vacuum housing inhaler (64) is the vacuum according to claim 1 and the packaging machine for adhesion which are connected with a vacuum pump (50) through the transparence hose (72) connected with the 1 side, and are characterized by coming to prepare the pressure canceling switch (74) for automatic vacuum formation of a vacuum housing (62), and pressure discharge in this vacuum housing inhaler (64).

[Claim 10] When making a vacuum housing (62) into a vacua with said vacuum housing inhaler (64), Even if said upper housing (44) has opened wide, when it will be in a vacua and vacuum formation and adhesion of said package bag (52) are performed, in order to prevent beforehand the accident from which said upper housing (44) opens and arises, The vacuum according to claim 1 and the packaging machine for adhesion which are characterized by coming to prepare a limit switch in the hinge region by which a closing motion drive is carried out so that a vacuum and an adhesion drive may be stopped.

[Claim 11] Said vacuum pump (50) is the vacuum according to claim 1 and the packaging machine for adhesion which make it the description as actuation comes to stop, when adhesion of the package bag (52) at a heater (54) is performed.

[Claim 12] In the vacuum and the packaging machine for adhesion (40) which consist of upper housing (44) and lower housing (42) in order to pack and keep food or the cooked ingesta with a package bag, and to paste up said package bag by the vacua The upper housing (44) of this vacuum and the packaging machine for adhesion (40) The transparence audit window (70) which is assembled by said lower housing (42) free [ closing motion ], and can check the existence or nonexistence of the sap of the sticking-by-pressure condition of a package bag (52) and the ingesta in a container (68) is prepared. And the microcomputer which carries out decision control of the electric signal by the control panel (46) at said lower housing (42) (48), The vacuum pump formed in the interior in order to be controlled by this microcomputer (48) and to form a vacuum (50), At the time of the heater (54) on which it is heated by control of said microcomputer (48), and a package bag (52) is pasted up, and control of said microcomputer (48) The loading slot which contains the display window (56) for telling vacuum pressure and adhesion time amount, and a roll-like package bag (52) (58), The vacuum housing inhaler which desorption is free into a vacuum conversion slot (60), and is connected with said vacuum pump (50), and makes a package bag (52) a vacua (64), The vacuum and the packaging machine for adhesion which are characterized by consisting of a container (68) which has the vacuum chamber (66) by which connects with said vacuum conversion slot (60), and air is discharged.

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is a thing about the vacuum and the packaging machine for adhesion for putting into a package bag and packing by the vacua, in order to prevent oxidation or deterioration of food or the cooked ingesta. In more detail In order to use it conveniently [ make the interior of the package bag containing ingesta into a vacua easily, and ], Prepare many carbon buttons and the microcomputer which controls actuation of a device according to the signal of this carbon button is formed. And the inhaler and transparence audit window for absorbing easily the moisture of the ingesta discharged in a vacuum process, and checking it are prepared, respectively. The display which consists of a segment and light emitting diode so that a user can furthermore carry out the direct check of said vacuum process is prepared. And so that it may come to prepare the limit switch which intercepts actuation in order to prevent a user's risk beforehand when upper housing is lifted at the time of a vacuum and adhesion, and also the container which became dirty with the sap discharged from ingesta can be washed easily It faces performing the vacuum of a package bag, and adhesion by making a container the configuration which can secede from a case. A user is provided with the maximum convenience, and while raising the economical efficiency of an overall packaging machine by this, it is related with the vacuum and the packaging machine for adhesion which make max the reliability and the satisfaction level on a user's use.

[0002]

[Description of the Prior Art] It is the actual condition which it packs in a lap or vinyl paper, and is generally being kept in a refrigerator vessel like a refrigerator in order to keep food or the cooked ingesta. However, although the storage method in said refrigerator machine can keep a predetermined period, since food and ingesta oxidize with the air in the interior of said package bag in the long run and it decomposes, it has the problem for which prolonged storage is not easy.

[0003] Such a problem is solved, and in order to prevent oxidation and deterioration of food or the cooked ingesta and to keep it for a long period of time, after putting in the ingesta which should be kept inside a package bag and extracting air, the vacuum and the packaging machine for adhesion to paste up are developed and used.

[0004] As shown in drawing 1 , for example, the vacuum and the packaging machine for adhesion which are carried out conventionally The end of the package bag 30 is inserted in the interior of the vertical section cases 20 and 10, and the rubber packing 24 and 23 is formed in the vertical section. The vacuum pump 25 for inhaling the air of Uchibe of the package bag 30 stuck by pressure with this vertical section rubber packing 24 and 23 is formed, and, ahead [ of said lower rubber packing 23 ], the heater 21 which is a heating means for seal of the package bag 30 is formed.

[0005] However, after a user puts in the ingesta which should be stored in the interior of the package bag 30 and locates the inlet-port section of this package bag 30 between the vertical section rubber packing 24 and 23 by said configuration, said upper housing 20 is closed so that the vertical section rubber packing 24 and 23 may get into gear. In such the condition, if a predetermined switch is pushed, a vacuum pump 25 will operate and the space between the rubber packing 23 and 24 will be formed in a vacua of actuation of this vacuum pump 25. Thus, if forming a vacuum in the package bag 30 interior is completed, a power source is impressed to the heater 21 formed ahead of said lower rubber packing 23, thermal melting arrival of said package bag 30 is carried out, and it will be in a seal condition. In addition, in order to carry out thermal melting arrival of the package bag 30 easily to said upper housing 20, in it, the packing 22 for heater pressure which presses the package bag 30 is formed, and said heater 21 is constituted so that a

user can adjust the temperature.

[0006]

[Problem(s) to be Solved by the Invention] However, said conventional vacuum and conventional packaging machine for adhesion In order for there to be a problem which causes damage on ingesta, such as sticking ingesta by pressure and making them damage and crush etc. in order that the vacuum force strong against the interior of the package bag which packs ingesta may act, and to prevent this damage moreover, When the degree of vacuum in a package bag is lowered, ingesta oxidize by the oxygen in the air which remains inside said package bag, it deteriorates, and there is a trouble that whenever [ of ingesta / fresh ] is unmaintainable.

[0007] When sap furthermore contains so much in ingesta, in the case of vacuum formation While being unable to check whether sap is flowing into the vacuum chamber in the case of vacuum formation of the package bag containing ingesta with much said sap except that there is a problem which sap flows into a vacuum pump, is made to pollute components and the interior, and is made to corrode When sap flows into said vacuum chamber, a vacuum chamber cannot be separated and washing is not easy.

[0008] As mentioned above, since the vacuum and the packaging machine for adhesion which are carried out conventionally have the above-mentioned various troubles, in case a limitation is not only in productivity and efficiency, but the use top reliability of a product falls and a user uses a vacuum and the packaging machine for adhesion, the problem that it cannot be satisfied enough always exists.

[0009] It aims at offering the vacuum and the packaging machine for adhesion which make max the reliability and the satisfaction level on a user's use while this invention was made in order to solve the trouble generated conventionally as mentioned above, it provides a user with the maximum convenience in the vacuum formation and adhesion of a package bag which pack ingesta and raises the economical efficiency of an overall packaging machine.

[0010]

[Means for Solving the Problem] In order to use it conveniently [ in order to attain said purpose, this invention makes a vacua easily the interior of the package bag containing ingesta, and ], Prepare many carbon buttons and the microcomputer which controls actuation of a device according to the signal of this carbon button is formed. And the inhaler and transparence audit window for absorbing easily the moisture of the ingesta discharged in a vacuum process, and checking it are prepared, respectively. The display which consists of a segment and light emitting diode so that a user can furthermore carry out the direct check of the vacuum process is prepared. Moreover, when upper housing is wide lifted and opened at the time of a vacuum and adhesion, in order to wash easily the container which became dirty with the sap which forms the limit switch which intercepts actuation in order to prevent a user's risk beforehand, and is moreover discharged from ingesta, It constitutes so that it can secede from a case.

[0011]

[Embodiment of the Invention] This invention is concretely explained based on the accompanying drawing which shows a desirable example below. In addition, the below-mentioned vocabulary is what was set up in consideration of the function in this invention, and since this may change with an intention of the producer who produces a product, or practices, the definition should be interpreted based on the contents indicated over this specification at large.

[0012] The appearance perspective view in which drawing 2 thru/or drawing 7 show one example of this invention, and drawing 2 shows a vacuum and the packaging machine for adhesion, The perspective view in which drawing 3 shows the condition that the upper housing of a vacuum and the packaging machine for adhesion was opened wide, The top view of the lower housing with which drawing 4 omitted upper housing, the top view showing that a container can separate drawing 5 from lower housing, The perspective view in which drawing 6 shows that by which a vacuum inhaler is applied to a vacuum housing as other examples, and drawing 7 are the block block diagrams showing the control configuration of a vacuum and the packaging machine for adhesion, and drawing 8 loaded with the chemical cylinder, and also shows an example.

[0013] Namely, in order that this example may pack and keep food or the cooked ingesta with a package bag, In the vacuum and the packaging machine 40 for adhesion which consist of upper housing 44 and lower housing 42 in order to paste up said package bag by the vacua the upper housing 44 of this vacuum and the packaging machine 40 for adhesion It is assembled by said lower housing 42 free [ closing motion ], and the transparence audit window 70 whether the sap of ingesta is in the sticking-by-pressure condition and container 68 of the package bag 52 enabled it to check easily is formed. In said lower housing 42, by the microcomputer 48 which carries out decision control of the electric signal by the control panel 46, the vacuum pump 50 formed in the interior in order to be controlled by this

microcomputer 48 and to form a vacuum, and control of said microcomputer 48 At the time of the heater 54 on which it is heated and the package bag 52 is pasted up, and control of said microcomputer 48 The display window 56 for telling vacuum pressure and adhesion time amount, and the loading slot 58 which contains the roll-like package bag 52, It consists of a container 68 which has the vacuum chamber 66 by which connects with the vacuum housing inhaler 64 which desorption is free into the vacuum conversion slot 60, and is connected with said vacuum pump 50, and makes a vacua alternatively the package bag 52 or a vacuum housing 62 in said vacuum conversion slot 60, and air is discharged.

[0014] As for said upper housing 44, the door-lock section 112-1 is formed in longitudinal direction both sides. Next, between these door-lock sections 112-1 The heater pressurization section 114 which consists of rubber material for being stuck with a heater 54 and making adhesion of the package bag 52 easy is formed. To the back side of this heater pressurization section 114 The rectangular up vacuum maintenance pad 116 is formed in the lower vacuum maintenance pad 84 prepared in said lower housing 42, and the location which counters, and the transparence audit window 70 which enables it to check the vacuum chamber 66 easily is formed in the core of this up vacuum maintenance pad 116.

[0015] Moreover, the radiator 54-1 which prevents deformation of said case generated with heat is formed in the lower part of the heater 54 formed in said lower housing 42.

[0016] Next, said container 68 is joined by the separation projection 78 of the container assembly slot 76 formed in the front end side of said lower housing 42, the vacuum chamber 66 of the rectangle which has the exhaust air port 80 and the juice overflow prevention stage 82 is formed in the 1 side of said container 68, and it adheres to the lower vacuum maintenance pad 84 which consists of rubber material at the edge of this vacuum chamber 66.

[0017] Moreover, in order to form said loading slot 58 in the back side of said container 68 at a longitudinal direction and to contain the roll-like package bag 52, the letter slot 86 of the abbreviation for U characters is formed in 1 side, and the winding wheel 90 which has stop slot 90a is formed in the side else so that winding and \*\*\*\* by rotation may be made.

[0018] furthermore, to the display 92 of said control panel 46 The display window 56 which is controlled by the microcomputer 48 and displays vacuum pressure and adhesion time amount, The heater lamp 96 in which the selection at the time of a vacuum or adhesion of a package bag is shown, and the vacuum display lamp 98 for films in which forming the package bag 52 in a vacua is shown, The pilot light 100 for vacuum housings turned on when forming a vacuum housing 62 in a vacua is formed. In the switch section 94 of said control panel 46 The menu switch 102 which chooses actuation of a heater, vacuum formation of a package bag, or vacuum formation of a vacuum housing, It comes to prepare the selecting switch 104 which sets up vacuum pressure and adhesion time amount, the adhesion switch 106 which chooses only manual adhesion, and the switch 108 which chooses initiation and a halt.

[0019] Said vacuum conversion slot 60 is constituted so that the vacuum housing inhaler 64 can be detached and attached, and the inhalation-of-air hole 112 connected with the exhaust air port 80 of said vacuum chamber 66 through an interconnecting tube 110 is formed.

[0020] Moreover, said vacuum housing inhaler 64 is connected with a vacuum pump 50 through the transparence hose 72 connected with the 1 side, and the pressure canceling switch 74 for automatic vacuum formation of a vacuum housing 62 and pressure discharge is formed in this vacuum housing inhaler 64.

[0021] Drawing 8 shows the case where said loading slot 58 is made to possess the nitrogen chemical cylinder 120 instead of said roll-like package bag 52, and also is an example. In said loading slot 58 The connection port 124 combined with the inlet 122 of the nitrogen chemical cylinder 120 is established in 1 side. In the insufflation tubing 128 which the chemical cylinder loading section 126 which enabled it to \*\* by a solenoid etc. approximately is formed, and is connected with the side else in said connection port 124 It has the usual bulb 130 for passing or stopping the gas of the nitrogen chemical cylinder 120, and the insufflation port 132 protrudes on the container 68 so that gas can be poured in in the package bag 52 at the end of said insufflation tubing 128.

[0022] And when it becomes rubber tube structure and compressed gas is poured in, ellipse packing which encloses the space in which said exhaust air port 80 and insufflation port 132 were established is constituted, expanding so that it may stick in the airtight condition.

[0023] In addition, since in the case of the example of drawing 6 it inhales with the vacuum housing inhaler 64 when making a vacuum housing 62 into a vacua with the vacuum housing inhaler 64, formation of a vacua is possible even if said upper housing 44 has opened wide. Moreover, when performing vacuum formation and adhesion of said



package bag 52, in order to prevent beforehand the accident from which said upper housing 44 opens and arises, the limit switch is formed in the hinge region by which a closing motion drive is carried out so that a vacuum and an adhesion drive may be stopped.

[0024] Furthermore, when adhesion of the package bag 52 at a heater 54 is performed, actuation suspends said vacuum pump 50.

[0025] In addition, the vacuum and the packaging machine for adhesion which were constituted like said example can deform variously. Furthermore, this invention should be understood to be what is not limited to the special gestalt currently indicated above, and should be understood to be a thing containing the pneuma of this invention defined on the contrary by the claim, all variations within the limits, an equal object, and an alternative.

[0026] Next, in the above-mentioned example, when vacuum-packing ingesta etc. using said vacuum and the packaging machine 40 for adhesion, it sets, locating the opening edge of the package bag 52 on the lower vacuum maintenance pad 84 of a container 68, after putting food or the cooked ingesta into the package bag 52 first so that it may be located on the vacuum chamber 66.

[0027] Next, after closing upper housing 44 on lower housing 42, the selecting switch 104 of a control panel 46 is operated, and after setting up vacuum pressure or adhesion time amount, looking at a display window 56, the menu switch 102 is pushed.

[0028] Thus, if the preparation for a vacuum packaging is completed and a switch 108 is pushed, the air in the package bag 52 will be discharged and it will be in a vacua.

[0029] On the other hand, when many sap is contained in the ingesta contained into the package bag 52, in case it is a vacuum packaging of these ingesta, the overflow of sap can be checked through the transparence audit window 70, and also opening of the package bag 52 can perform easily the localization of whether to be surely located on the vacuum chamber 66.

[0030] When the overflow of sap is furthermore able to be checked through said transparence audit window 70, after suspending vacuum formation immediately and setting again, a vacuum is formed or convenient use -- the independent function of only adhesion by the adhesion switch 106 can be chosen -- is enabled.

[0031] Moreover, since sap will flow along with the transparence hose 72 with air if sap flows into the vacuum housing inhaler 64 located in the vacuum conversion slot 60 through the exhaust air port 80 even if it misses the check of the overflow of the sap which flowed into said container 68, the check of the overflow of sap can be performed automatically. Therefore, when sap is attached to the transparence hose 72, the endurance of a device can be maintained by checking this, and cleaning washing the interior, such as a container, or requesting repair of a device.

[0032] On the other hand, a microcomputer 48 senses that the pressure of the package bag 52 results in a constant pressure through a pressure sensor 118, and thereby, a microcomputer 48 stops actuation of a vacuum pump 50, and completes a vacuum packaging.

[0033] Next, when it is going to make the food held in another vacuum housing 62, or the cooked ingesta into a vacuum like the example of drawing 6, after taking out the vacuum housing inhaler 64 from the vacuum conversion slot 60, it can combine with the usual vacuum housing bulb prepared in the lid of a vacuum housing 62, and a vacua can be formed. Under the present circumstances, even if upper housing 44 is in an open condition, the inside of a vacuum housing 62 can be made into a vacua with the vacuum housing inhaler 64. In addition, ejection of said vacuum housing inhaler 64 can be easily performed by pushing the vacuum housing canceling switch 74.

[0034] Next, if the air in the package bag 52 is extracted and a vacua is formed as mentioned above, impress a power source and a microcomputer 48 makes it generate heat at a heater 54, and as a result, thermal melting arrival of the opening of the package bag 52 is carried out, and it will be in a seal condition.

[0035] On the other hand, in the case of the example of drawing 8, in advance of the heat seal of said package bag 52, a microcomputer 48 can push the chemical cylinder loading section 126, can let the insufflation port 132 of the insufflation tubing 128 with which the nitrogen gas of the nitrogen chemical cylinder 120 was connected with the connection port 124 and this pass, and can pour in the gas of the specified quantity into the package bag 52 formed in the vacua. However, it has this nitrogen chemical cylinder alternatively.

[0036] Said microcomputer 48 makes a display window 56 display the vacuum pressure sensed by the pressure sensor 118, i.e., the vacuum pressure which acts on the package bag 52. Here, the control approach of a vacuum with said microcomputer 48 and the packaging machine 40 for adhesion is indicated by the South Korean patent application No. 22618 [ 2000 to ] for which these people already applied.



[0037] In addition, said pressure sensor 118 is applicable to Oshi with piezo-electricity (piezo electric), a piezo-resistance (piezo resistive), electrostatic capacity (capacitance), and a differential-transformer (LVDT; Linear Variable Different Transformer) method.

[0038] After carrying out vacuum processing of the package bag 52 with which ingesta were held like the example of above-mentioned drawing 8 and removing internal air, it can also prevent that ingesta are damaged by strong vacuum pressure by impregnation of gas not to mention preventing deterioration of ingesta by pouring in nitrogen gas.

[0039]

[Effect of the Invention] As explained above, in order to use this invention conveniently [ make easily into a vacua the interior of a package bag in which ingesta are held, and ], Prepare many carbon buttons and the microcomputer which controls actuation of a device according to the signal of this carbon button is formed. And the inhaler and transparence audit window for absorbing easily the moisture of the ingesta discharged in a vacuum process, and checking it are prepared, respectively. The display which consists of a segment and light emitting diode so that a user can furthermore carry out the direct check of said vacuum process is prepared. And so that it may come to prepare the limit switch which intercepts actuation in order to prevent a user's risk beforehand when upper housing is lifted at the time of a vacuum and adhesion, and also the container which became dirty with the sap discharged from ingesta can be washed easily By making a container the configuration which can secede from a case, it faces performing the vacuum of a package bag, and adhesion, and a user is provided with the maximum convenience, and while raising the economical efficiency of an overall packaging machine by this, the effectiveness which makes max the reliability and satisfaction on a user's use is done so.

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TECHNICAL FIELD

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[Field of the Invention] This invention is a thing about the vacuum and the packaging machine for adhesion for putting into a package bag and packing by the vacua, in order to prevent oxidation or deterioration of food or the cooked ingesta. In more detail In order to use it conveniently [ make the interior of the package bag containing ingesta into a vacua easily, and ], Prepare many carbon buttons and the microcomputer which controls actuation of a device according to the signal of this carbon button is formed. And the inhaler and transperence audit window for absorbing easily the moisture of the ingesta discharged in a vacuum process, and checking it are prepared, respectively. The display which consists of a segment and light emitting diode so that a user can furthermore carry out the direct check of said vacuum process is prepared. And so that it may come to prepare the limit switch which intercepts actuation in order to prevent a user's risk beforehand when upper housing is lifted at the time of a vacuum and adhesion, and also the container which became dirty with the sap discharged from ingesta can be washed easily It faces performing the vacuum of a package bag, and adhesion by making a container the configuration which can secede from a case. A user is provided with the maximum convenience, and while raising the economical efficiency of an overall packaging machine by this, it is related with the vacuum and the packaging machine for adhesion which make max the reliability and the satisfaction level on a user's use.

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PRIOR ART

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[Description of the Prior Art] It is the actual condition which it packs in a lap or vinyl paper, and is generally being kept in a refrigerator vessel like a refrigerator in order to keep food or the cooked ingesta. However, although the storage method in said refrigerator machine can keep a predetermined period, since food and ingesta oxidize with the air in the interior of said package bag in the long run and it decomposes, it has the problem for which prolonged storage is not easy.

[0003] Such a problem is solved, and in order to prevent oxidation and deterioration of food or the cooked ingesta and to keep it for a long period of time, after putting in the ingesta which should be kept inside a package bag and extracting air, the vacuum and the packaging machine for adhesion to paste up are developed and used.

[0004] As shown in drawing 1, for example, the vacuum and the packaging machine for adhesion which are carried out conventionally. The end of the package bag 30 is inserted in the interior of the vertical section cases 20 and 10, and the rubber packing 24 and 23 is formed in the vertical section. The vacuum pump 25 for inhaling the air of Uchibe of the package bag 30 stuck by pressure with this vertical section rubber packing 24 and 23 is formed, and, ahead [ of said lower rubber packing 23 ], the heater 21 which is a heating means for seal of the package bag 30 is formed.

[0005] However, after a user puts in the ingesta which should be stored in the interior of the package bag 30 and locates the inlet-port section of this package bag 30 between the vertical section rubber packing 24 and 23 by said configuration, said upper housing 20 is closed so that the vertical section rubber packing 24 and 23 may get into gear. In such the condition, if a predetermined switch is pushed, a vacuum pump 25 will operate and the space between the rubber packing 23 and 24 will be formed in a vacua of actuation of this vacuum pump 25. Thus, if forming a vacuum in the package bag 30 interior is completed, a power source is impressed to the heater 21 formed ahead of said lower rubber packing 23, thermal melting arrival of said package bag 30 is carried out, and it will be in a seal condition. In addition, in order to carry out thermal melting arrival of the package bag 30 easily to said upper housing 20, in it, the packing 22 for heater pressure which presses the package bag 30 is formed, and said heater 21 is constituted so that a user can adjust the temperature.

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## EFFECT OF THE INVENTION

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[Effect of the Invention] As explained above, in order to use this invention conveniently [ make easily into a vacua the interior of a package bag in which ingesta are held, and ], Prepare many carbon buttons and the microcomputer which controls actuation of a device according to the signal of this carbon button is formed. And the inhaler and transparence audit window for absorbing easily the moisture of the ingesta discharged in a vacuum process, and checking it are prepared, respectively. The display which consists of a segment and light emitting diode so that a user can furthermore carry out the direct check of said vacuum process is prepared. And so that it may come to prepare the limit switch which intercepts actuation in order to prevent a user's risk beforehand when upper housing is lifted at the time of a vacuum and adhesion, and also the container which became dirty with the sap discharged from ingesta can be washed easily By making a container the configuration which can secede from a case, it faces performing the vacuum of a package bag, and adhesion, and a user is provided with the maximum convenience, and while raising the economical efficiency of an overall packaging machine by this, the effectiveness which makes max the reliability and satisfaction on a user's use is done so.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] However, said conventional vacuum and conventional packaging machine for adhesion In order for there to be a problem which causes damage on ingesta, such as sticking ingesta by pressure and making them damage and crush etc. in order that the vacuum force strong against the interior of the package bag which packs ingesta may act, and to prevent this damage moreover, When the degree of vacuum in a package bag is lowered, ingesta oxidize by the oxygen in the air which remains inside said package bag, it deteriorates, and there is a trouble that whenever [ of ingesta / fresh ] is unmaintainable.

[0007] When sap furthermore contains so much in ingesta, in the case of vacuum formation While being unable to check whether sap is flowing into the vacuum chamber in the case of vacuum formation of the package bag containing ingesta with much said sap except that there is a problem which sap flows into a vacuum pump, is made to pollute components and the interior, and is made to corrode When sap flows into said vacuum chamber, a vacuum chamber cannot be separated and washing is not easy.

[0008] As mentioned above, since the vacuum and the packaging machine for adhesion which are carried out conventionally have the above-mentioned various troubles, in case a limitation is not only in productivity and efficiency, but the use top reliability of a product falls and a user uses a vacuum and the packaging machine for adhesion, the problem that it cannot be satisfied enough always exists.

[0009] It aims at offering the vacuum and the packaging machine for adhesion which make max the reliability and the satisfaction level on a user's use while this invention was made in order to solve the trouble generated conventionally as mentioned above, it provides a user with the maximum convenience in the vacuum formation and adhesion of a package bag which pack ingesta and raises the economical efficiency of an overall packaging machine.

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## MEANS

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[Means for Solving the Problem] In order to use it conveniently [ in order to attain said purpose, this invention makes a vacua easily the interior of the package bag containing ingesta, and ], Prepare many carbon buttons and the microcomputer which controls actuation of a device according to the signal of this carbon button is formed. And the inhaler and transparence audit window for absorbing easily the moisture of the ingesta discharged in a vacuum process, and checking it are prepared, respectively. The display which consists of a segment and light emitting diode so that a user can furthermore carry out the direct check of the vacuum process is prepared. Moreover, when upper housing is wide lifted and opened at the time of a vacuum and adhesion, in order to wash easily the container which became dirty with the sap which forms the limit switch which intercepts actuation in order to prevent a user's risk beforehand, and is moreover discharged from ingesta, It constitutes so that it can secede from a case.

[0011]

[Embodiment of the Invention] This invention is concretely explained based on the accompanying drawing which shows a desirable example below. In addition, the below-mentioned vocabulary is what was set up in consideration of the function in this invention, and since this may change with an intention of the producer who produces a product, or practices, the definition should be interpreted based on the contents indicated over this specification at large.

[0012] The appearance perspective view in which drawing 2 thru/or drawing 7 show one example of this invention, and drawing 2 shows a vacuum and the packaging machine for adhesion, The perspective view in which drawing 3 shows the condition that the upper housing of a vacuum and the packaging machine for adhesion was opened wide, The top view of the lower housing with which drawing 4 omitted upper housing, the top view showing that a container can separate drawing 5 from lower housing, The perspective view in which drawing 6 shows that by which a vacuum inhaler is applied to a vacuum housing as other examples, and drawing 7 are the block block diagrams showing the control configuration of a vacuum and the packaging machine for adhesion, and drawing 8 loaded with the chemical cylinder, and also shows an example.

[0013] Namely, in order that this example may pack and keep food or the cooked ingesta with a package bag, In the vacuum and the packaging machine 40 for adhesion which consist of upper housing 44 and lower housing 42 in order to paste up said package bag by the vacua the upper housing 44 of this vacuum and the packaging machine 40 for adhesion It is assembled by said lower housing 42 free [ closing motion ], and the transparence audit window 70 whether the sap of ingesta is in the sticking-by-pressure condition and container 68 of the package bag 52 enabled it to check easily is formed. In said lower housing 42, by the microcomputer 48 which carries out decision control of the electric signal by the control panel 46, the vacuum pump 50 formed in the interior in order to be controlled by this microcomputer 48 and to form a vacuum, and control of said microcomputer 48 At the time of the heater 54 on which it is heated and the package bag 52 is pasted up, and control of said microcomputer 48 The display window 56 for telling vaccum pressure and adhesion time amount, and the loading slot 58 which contains the roll-like package bag 52, It consists of a container 68 which has the vacuum chamber 66 by which connects with the vacuum housing inhaler 64 which desorption is free into the vacuum conversion slot 60, and is connected with said vacuum pump 50, and makes a vacua alternatively the package bag 52 or a vacuum housing 62 in said vacuum conversion slot 60, and air is discharged.

[0014] As for said upper housing 44, the door-lock section 112-1 is formed in longitudinal direction both sides. Next, between these door-lock sections 112-1 The heater pressurization section 114 which consists of rubber material for being stuck with a heater 54 and making adhesion of the package bag 52 easy is formed. To the back side of this heater pressurization section 114 The rectangular up vacuum maintenance pad 116 is formed in the lower vacuum

maintenance pad 84 prepared in said lower housing 42, and the location which counters, and the transparence audit window 70 which enables it to check the vacuum chamber 66 easily is formed in the core of this up vacuum maintenance pad 116.

[0015] Moreover, the radiator 54-1 which prevents deformation of said case generated with heat is formed in the lower part of the heater 54 formed in said lower housing 42.

[0016] Next, said container 68 is joined by the separation projection 78 of the container assembly slot 76 formed in the front end side of said lower housing 42, the vacuum chamber 66 of the rectangle which has the exhaust air port 80 and the juice overflow prevention stage 82 is formed in the 1 side of said container 68, and it adheres to the lower vacuum maintenance pad 84 which consists of rubber material at the edge of this vacuum chamber 66.

[0017] Moreover, in order to form said loading slot 58 in the back side of said container 68 at a longitudinal direction and to contain the roll-like package bag 52, the letter slot 86 of the abbreviation for U characters is formed in 1 side, and the winding wheel 90 which has stop slot 90a is formed in the side else so that winding and \*\*\*\* by rotation may be made.

[0018] furthermore, to the display 92 of said control panel 46 The display window 56 which is controlled by the microcomputer 48 and displays vacuum pressure and adhesion time amount, The heater lamp 96 in which the selection at the time of a vacuum or adhesion of a package bag is shown, and the vacuum display lamp 98 for films in which forming the package bag 52 in a vacua is shown, The pilot light 100 for vacuum housings turned on when forming a vacuum housing 62 in a vacua is formed. In the switch section 94 of said control panel 46 The menu switch 102 which chooses actuation of a heater, vacuum formation of a package bag, or vacuum formation of a vacuum housing, It comes to prepare the selecting switch 104 which sets up vacuum pressure and adhesion time amount, the adhesion switch 106 which chooses only manual adhesion, and the switch 108 which chooses initiation and a halt.

[0019] Said vacuum conversion slot 60 is constituted so that the vacuum housing inhaler 64 can be detached and attached, and the inhalation-of-air hole 112 connected with the exhaust air port 80 of said vacuum chamber 66 through an interconnecting tube 110 is formed.

[0020] Moreover, said vacuum housing inhaler 64 is connected with a vacuum pump 50 through the transparence hose 72 connected with the 1 side, and the pressure canceling switch 74 for automatic vacuum formation of a vacuum housing 62 and pressure discharge is formed in this vacuum housing inhaler 64.

[0021] Drawing 8 shows the case where said loading slot 58 is made to possess the nitrogen chemical cylinder 120 instead of said roll-like package bag 52, and also is an example. In said loading slot 58 The connection port 124 combined with the inlet 122 of the nitrogen chemical cylinder 120 is established in 1 side. In the insufflation tubing 128 which the chemical cylinder loading section 126 which enabled it to \*\* by a solenoid etc. approximately is formed, and is connected with the side else in said connection port 124 It has the usual bulb 130 for passing or stopping the gas of the nitrogen chemical cylinder 120, and the insufflation port 132 protrudes on the container 68 so that gas can be poured in in the package bag 52 at the end of said insufflation tubing 128.

[0022] And when it becomes rubber tube structure and compressed gas is poured in, ellipse packing which encloses the space in which said exhaust air port 80 and insufflation port 132 were established is constituted, expanding so that it may stick in the airtight condition.

[0023] In addition, since in the case of the example of drawing 6 it inhales with the vacuum housing inhaler 64 when making a vacuum housing 62 into a vacua with the vacuum housing inhaler 64, formation of a vacua is possible even if said upper housing 44 has opened wide. Moreover, when performing vacuum formation and adhesion of said package bag 52, in order to prevent beforehand the accident from which said upper housing 44 opens and arises, the limit switch is formed in the hinge region by which a closing motion drive is carried out so that a vacuum and an adhesion drive may be stopped.

[0024] Furthermore, when adhesion of the package bag 52 at a heater 54 is performed, actuation suspends said vacuum pump 50.

[0025] In addition, the vacuum and the packaging machine for adhesion which were constituted like said example can deform variously. Furthermore, this invention should be understood to be what is not limited to the special gestalt currently indicated above, and should be understood to be a thing containing the pneuma of this invention defined on the contrary by the claim, all variations within the limits, an equal object, and an alternative.

[0026] Next, in the above-mentioned example, when vacuum-packing ingesta etc. using said vacuum and the packaging machine 40 for adhesion, it sets, locating the opening edge of the package bag 52 on the lower vacuum

maintenance pad 84 of a container 68, after putting food or the cooked ingesta into the package bag 52 first so that it may be located on the vacuum chamber 66.

[0027] Next, after closing upper housing 44 on lower housing 42, the selecting switch 104 of a control panel 46 is operated, and after setting up vacuum pressure or adhesion time amount, looking at a display window 56, the menu switch 102 is pushed.

[0028] Thus, if the preparation for a vacuum packaging is completed and a switch 108 is pushed, the air in the package bag 52 will be discharged and it will be in a vacua.

[0029] On the other hand, when many sap is contained in the ingesta contained into the package bag 52, in case it is a vacuum packaging of these ingesta, the overflow of sap can be checked through the transparence audit window 70, and also opening of the package bag 52 can perform easily the localization of whether to be surely located on the vacuum chamber 66.

[0030] When the overflow of sap is furthermore able to be checked through said transparence audit window 70, after suspending vacuum formation immediately and setting again, a vacuum is formed or convenient use -- the independent function of only adhesion by the adhesion switch 106 can be chosen -- is enabled.

[0031] Moreover, since sap will flow along with the transparence hose 72 with air if sap flows into the vacuum housing inhaler 64 located in the vacuum conversion slot 60 through the exhaust air port 80 even if it misses the check of the overflow of the sap which flowed into said container 68, the check of the overflow of sap can be performed automatically. Therefore, when sap is attached to the transparence hose 72, the endurance of a device can be maintained by checking this, and cleaning washing the interior, such as a container, or requesting repair of a device.

[0032] On the other hand, a microcomputer 48 senses that the pressure of the package bag 52 results in a constant pressure through a pressure sensor 118, and thereby, a microcomputer 48 stops actuation of a vacuum pump 50, and completes a vacuum packaging.

[0033] Next, when it is going to make the food held in another vacuum housing 62, or the cooked ingesta into a vacuum like the example of drawing 6, after taking out the vacuum housing inhaler 64 from the vacuum conversion slot 60, it can combine with the usual vacuum housing bulb prepared in the lid of a vacuum housing 62, and a vacua can be formed. Under the present circumstances, even if upper housing 44 is in an open condition, the inside of a vacuum housing 62 can be made into a vacua with the vacuum housing inhaler 64. In addition, ejection of said vacuum housing inhaler 64 can be easily performed by pushing the vacuum housing canceling switch 74.

[0034] Next, if the air in the package bag 52 is extracted and a vacua is formed as mentioned above, impress a power source and a microcomputer 48 makes it generate heat at a heater 54, and as a result, thermal melting arrival of the opening of the package bag 52 is carried out, and it will be in a seal condition.

[0035] On the other hand, in the case of the example of drawing 8, in advance of the heat seal of said package bag 52, a microcomputer 48 can push the chemical cylinder loading section 126, can let the insufflation port 132 of the insufflation tubing 128 with which the nitrogen gas of the nitrogen chemical cylinder 120 was connected with the connection port 124 and this pass, and can pour in the gas of the specified quantity into the package bag 52 formed in the vacua. However, it has this nitrogen chemical cylinder alternatively.

[0036] Said microcomputer 48 makes a display window 56 display the vacuum pressure sensed by the pressure sensor 118, i.e., the vacuum pressure which acts on the package bag 52. Here, the control approach of a vacuum with said microcomputer 48 and the packaging machine 40 for adhesion is indicated by the South Korean patent application No. 22618 [ 2000 to ] for which these people already applied.

[0037] In addition, said pressure sensor 118 is applicable to Oshi with piezo-electricity (piezo electric), a piezo-resistance (piezo resistive), electrostatic capacity (capacitance), and a differential-transformer (LVDT; Linear Variable Different Transformer) method.

[0038] After carrying out vacuum processing of the package bag 52 with which ingesta were held like the example of above-mentioned drawing 8 and removing internal air, it can also prevent that ingesta are damaged by strong vacuum pressure by impregnation of gas not to mention preventing deterioration of ingesta by pouring in nitrogen gas.



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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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## DESCRIPTION OF DRAWINGS

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### [Brief Description of the Drawings]

[Drawing 1] The perspective view showing a conventional vacuum and the conventional packaging machine for adhesion.

[Drawing 2] The perspective view showing the appearance of the vacuum which is one example of this invention, and the packaging machine for adhesion.

[Drawing 3] The perspective view showing the condition that the vacuum of drawing 1 and the upper housing of the packaging machine for adhesion opened.

[Drawing 4] The vacuum of drawing 1, and the top view of the lower housing of the packaging machine for adhesion.

[Drawing 5] The top view showing the condition that the container was separated from lower housing in drawing 4.

[Drawing 6] The perspective view showing the appearance of the vacuum which is other one example of this invention, and the packaging machine for adhesion.

[Drawing 7] The schematic diagram showing the control configuration of the vacuum which is one example of this invention, and the packaging machine for adhesion.

[Drawing 8] The schematic diagram showing the control configuration of the vacuum which is other one example of this invention, and the packaging machine for adhesion.

### [Description of Notations]

40 Vacuum and Packaging Machine for Adhesion

42 Lower Housing

44 Upper Housing

46 Control Panel

48 Microcomputer

50 Vacuum Pump

52 Package Bag

54 Heater

56 Display Window

58 Loading Slot

60 Vacuum Conversion Slot

62 Vacuum Housing

64 Vacuum Housing Inhaler

66 Vacuum Chamber

68 Container

70 Transparence Audit Window

72 Transparence Hose

74 Pressure Canceling Switch

76 Container Assembly Slot

80 Exhaust Air Port

82 Sap Overflow Prevention Stage

84 Lower Vacuum Maintenance Pad

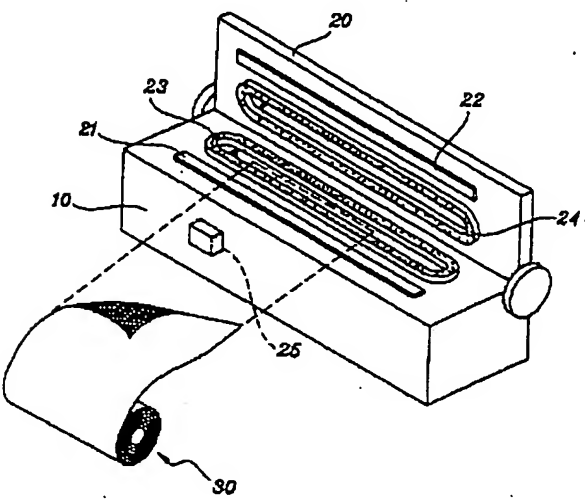
116 Up Vacuum Maintenance Pad

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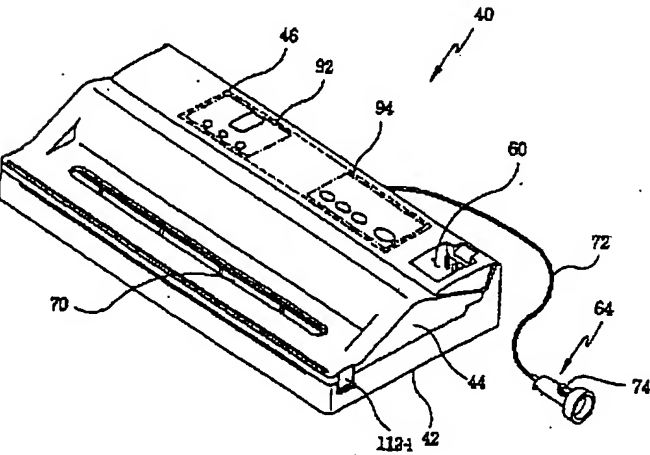
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DRAWINGS

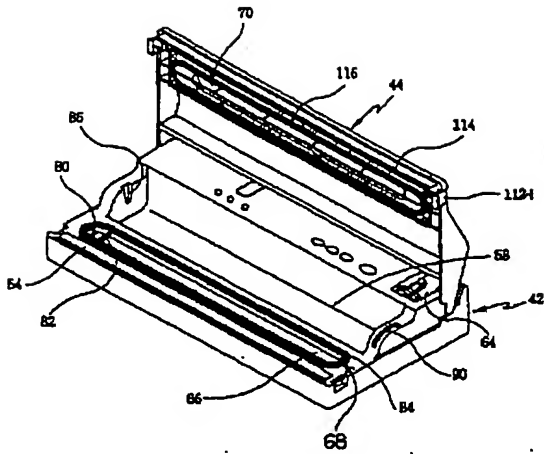
[Drawing 1]



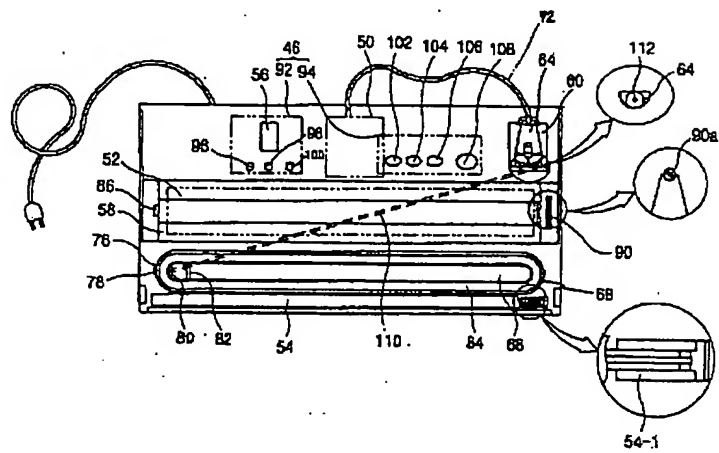
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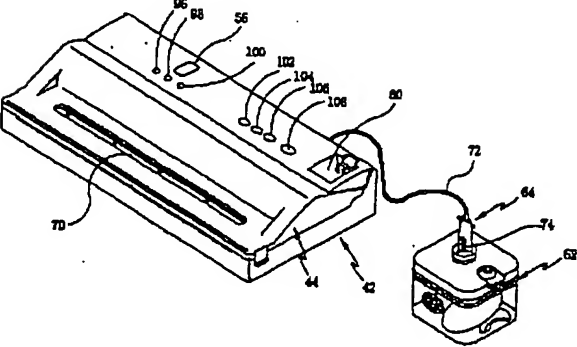
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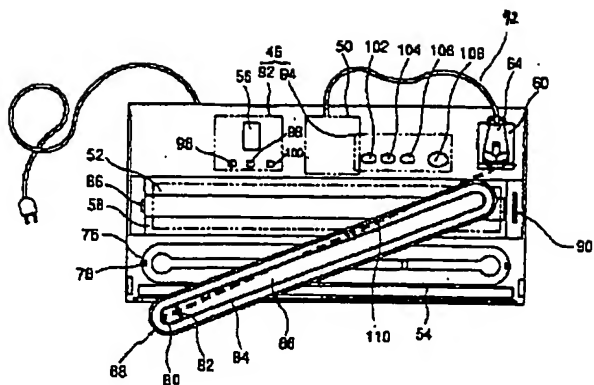
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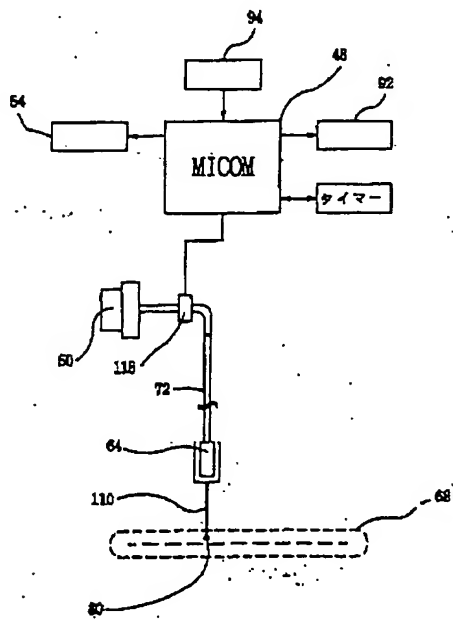
[Drawing 6]



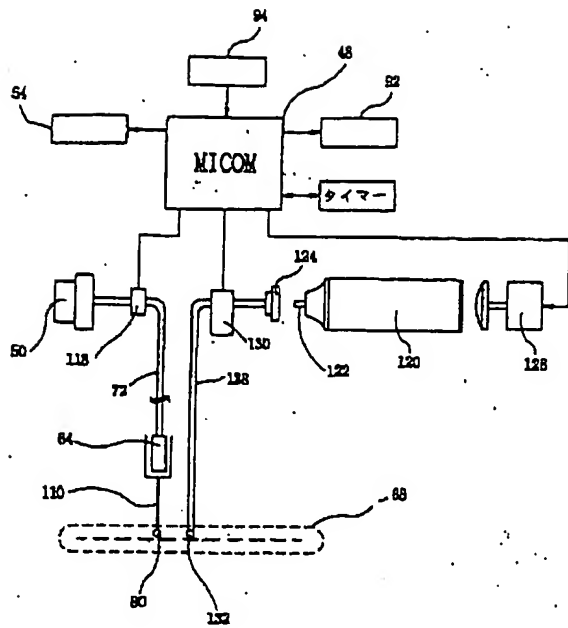
[Drawing 5]



[Drawing 7]



[Drawing 8]



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